CLAIMS

I Claim:

1 1.   An apparatus comprising:

2   a processor to respond to an event-driven action; and

3   a driver coupled to said processor to perform a program function when an

4 indication of the event-driven action is received from said processor, said driver to control

5 a response to the event-driven action external to a management mode of said processor.

1 2.   The apparatus of claim 1 wherein said processor responds to an event-driven action

2 from an input/output device.

1 3.   The apparatus of claim 1 wherein said processor responds to an event-driven action

2 from an input/output device to perform a control action on a device.

1 4.   The apparatus of claim 1 wherein said processor responds to an event-driven action

2 from an input/output device to perform a control action on a device which may be

3 simultaneous controlled by system firmware and software device driver.

1 5.   The apparatus of claim 1 wherein said processor responds to a hot-key action to

2 perform a control action operation on a device altering it's current state or setting.

1 6.   The apparatus of claim 1 wherein said processor responds to a hot-key action to

2 perform a control action with the co-operation of both system firmware management and

3 operating system device driver management for the benefit of consistent behavior within

4 an operating system environment.

1   7.   An apparatus comprising:

2   a controller to receive an indication of an event-driven action from system

3   firmware when the event-driven action occurs and to generate a signal in response to the

4   received indication; and

5   a device driver coupled to said controller to perform a program function in

6   response to the signal to control an operation to alter the deivces current state, in which the

7   program function performs the control action external to a system management mode of

8   the processor firmware.

1   8.   The apparatus of claim 7 wherein said controller includes an interrupt generation

2   logic to generate an interrupt as the signal in response to a hot-key event-driven action.

1   9.   The apparatus of claim 8 wherein said driver includes an interrupt service routine

2   to process the interrupt and acquire control to perform the control action.

1   10.   The apparatus of claim 9 wherein said driver sets a first flag to acquire control of

2   said controller to perform the control action.

1   11.   The apparatus of claim 10 wherein said driver sets a second flag to indicate to said

2   controller that the control action is completed.

1   12.   The apparatus of claim 11 wherein said controller is interrogated periodically to

2   determine if the second flag is set and if the second flag is set, completing the hot-key

3   event-driven action.

1   13.   The apparatus of claim 7 wherein said controller is a graphics controller with a

2   multiplicity of displays outputs, in which the hot-key event-driven action initiates a

3   display switch from one of the displays to another display.

1   14.   The apparatus of claim 7 wherein said controller also includes a basic input output

2   system, BIOS, programming to allow the management mode of the firmware to control the

3   switching and in which a programmed selection determines if said driver or the BIOS

4   programming controls the switch.

1   15.   The apparatus of claim 7 wherein said controller is a graphics controller and

2   includes a video basic input output system, BIOS, programming to allow the management

3   mode of the firmware to control the switching and in which a programmed selection

4   determines if said driver or the video BIOS programming controls the switch between a

5   first and second display devices.

1   16.   A driver comprising:

2   a first routine to receive a signal in response to an indication of an event-driven

3   action from a processor firmware when the event-driven action occurs; and

4   a second routine to control an operation to switch a program function from

5   supporting a first device to support a second device, in which the driver's program

6   function performs the switch external to a management mode of the processor firmware.

1   17.   The driver of claim 16 wherein the driver supports a variety of input/output, I/O,

2   devices and the driver performs the control action on the devices.

1   18.   The driver of claim 16 wherein the driver supports a variety of display devices and

2   the driver performs the switch from a first display device to any other display device.

1   19.   The driver of claim 18 wherein the first routine receives an interrupt in response to

2   the indication of an event-driven action from a processor firmware and generates a flag to

3   obtain control from a controller for the display switch.

1 20. A machine-readable medium that provides instructions, which when executed by a

2 machine, causes the machine to perform operations comprising:

3 processing a signal in response to an indication of an event-driven action from a

4 processor firmware when the event-driven action occurs; and

5 performing a routine to control an operation to switch a program function from

6 supporting a first device to support a second device, in which the routine performs the

7 switch external to a management mode of the processor firmware.

1 21. The machine-readable medium of claim 20 further including an instruction to set a

2 flag to a controller to indicate that the routine is prepared to perform the switch.

1 22. The machine-readable medium of claim 20 further including an instruction to set a

2 flag to a controller to indicate that the routine has completed the switch.

1 23. A method comprising:

2 generating an indication of an event-driven action to perform some action on a

3 device ;

4 responding to the indication to handle the event-driven action external to a system

5 management mode of system firmware;

6 handling the device switch external to the management mode of a processor

7 firmware by having a driver handle the control action; and

8 returning control from the driver at completion of the device switch.

1 24. The method of claim 23 wherein the handling of the device switch by the driver

2 includes switching from one display device to another display device.

1 25. The method of claim 23 wherein the handling of the display image fitting or image

2 centering by the driver includes adjusting a device setting.

1   26.   The method of claim 23 wherein the handling of the display brightness by the

2   driver includes adjusting the brightness of the display.

1   27.   The method of claim 23 wherein handling of the device control is in response to

2   receiving an interrupt, upon which the driver performs the control action.

1   28.   A computer system comprising:

2   a system firmware including a basic input output system, BIOS, programming to

3   detect an event-driven action;

4   a controller to receive an indication from said processor firmware of an event-

5   driven action when the event-driven action occurs and to generate a signal in response to

6   the received indication; and

7   a driver coupled to said controller to perform a program function in response to the

8   signal to control an operation to control aspects of the device, in which the program

9   function performs the operation external to system management mode of said processor

10   firmware.

1   29.   The computer system of claim 28 wherein said controller is a graphics controller

2   and a switching action is initiated between a plurality of attached display devices.

1   30.   The computer system of claim 28 wherein the event-driven action is a hot-key

2   action.